DRAFT - CONFIDENTIAL ?Delete Section 303 Air Enforcemt. Case mention?

STATEMENT CONCERNING THE NEIC AIR STUDY
EXIDE BATTERY / WESTGATE TRAILER PARK SITE, GREER SC

The following is based on my recollections, and notes in my site file, from the time periods indicated.

I recall reviewing the CERCLA PA/SI report on the trailer park in late 1996 (**Atch 1** - Dec. 96 EPA form 9100 shows site was left as low priority for ESI) . I don't recall seeing any report(s) on the Exide plant itself as that was prior to my involvement in site assessment work.

Concerning the Westgate trailer park (WTP), I recall in late 1995 and early 1996 discussing the site numerous times on the phone with the State's project manager, Mike Klender. Also, at a March 1996 meeting of the joint EPA/SCDHEC Self-Directed Work Team (which began officially in January 1996), the site was discussed (see **Atch 2** - minutes of that meeting). During late 95-early 96 I recall Klender stating, in various discussions with me, 1- that Exide did not intend to address the WTP lead-in-soil issue; 2-was arguing remediation was not necessary as Exide had recently reduced their air emissions and were now in compliance with all regs; and 3- that the problem in the trailer park probably was not from the plant, could be car exhaust fallout etc., and 4- that nothing conclusive had ever been done to tie the plant to the WTP lead-bearing soils. I also recall Klender saying that past BAQC work had not proven Exide was the source of the lead in a manner that would support DHEC enforcement. **Atch 3** is a phone memo from late March '96 documenting some of that; and also discussed on that call was some sort of backup air study, by SESD (EPA) staff, to tie the plant conclusively to the WTP. This was the original origin of the air study idea.

At some point Klender mentioned that as early as 1993 the State had concerns about WTP soils but had been unable to get Exide to address them, or address them to their satisfaction. This eventually led to the 8/94 removal of WTP soils. (See **Atch 4** - EPA Form 9100 on General Battery (alias Exide Battery) Corp. site (Cathy Amoroso, EPA); showing EPA was also aware in July '93 about WTP soils.) I recall seeing something in print reflecting Exide's position about WTP, and have just recently pulled the file and located what is probably what I recall seeing (**Atch 5**), a letter (11/29/90) from Exide's consultant to Exide, critiquing SCDHEC's "Site Screening Investigation" from 11/89. (Atch 5 has the last 3 pages of DHEC's report and the last four pages of Engineering-Science's letter critical of it. The reader should review all statements concerning the air pathway.)

At the 3/11/96 SDWT meeting (Atch 2) it was noted that EPA's removal grid sampling, from 8/94, did not prove (and wasn't intended to prove) that Exide was the source of the lead. The group as a whole heard, from Klender, the following: State had concerns about lead in children's blood samples; DHEC BAQC had not done an air study at the appropriate time to tie the plant to the WTP, despite Bureau of Solid/Haz. Waste's efforts to get BAQC to do so; and, State believed there would be problems and delays in getting site issues addressed, even if a Consent Order was

signed soon (one was later signed in 4/96).

The site was discussed at some of the 1996 SDWT meetings, but as far as recorded minutes, shows up next in notes for the 10/7+8/96 meeting (Trident District)(**Atch 6**). The notes indicate, and I recall, that sampling was still needed in the WTP. The team decided that a PA/SI should be done during FY 97 to provide more "baseline" data on WTP surface soils, and as a hedge in case the State had trouble with its enforcement of the work to be done under the 4/96 Order.

In late January or early February of 1997, I contacted Phyllis Warrilow, then Jean Campbell, and then Beverly Spagg, all of EPA Region 4 Air Enforcement. I discussed with them the type of air evidence, or air study, that was needed. By this time the State's 11/96 soil sampling lab results (done by Exide under the order) had come in, showing 1/3 of the samples over 500 ppm. (Since then the removal level for lead-bearing residential surface soils has been lowered to 400 ppm.) I recall mentioning that the State anticipated problems getting surface soils removed out of WTP, and that because there was no established linkage (State Air-enforcement-based) to the plant, we ourselves might also never cost-collect for the 8/94 removal we did, nor possibly would the State be able to, for their work; and, that while this was a State-lead site, that EPA and SC now work closely in a Team-based approach to better coordinate and mutually support each other's remedial and site-assessment activities.

From those discussions came the 2/13/97 meeting (**Atch 7**), and from that meeting came the "fingerprinting" study idea. Notable items I recall, and recall from review of the meeting notes, include the following: 1-Klender still anticipated problems in getting WTP surface soils removed; 2- he said that a recent Exide report made no mention whatsoever of WTP (I believe he said they denied being the source for WTP lead, but can't clearly recall this statement); 3-there was discussion of a possible (or actual-I'm not sure) Air Enforcement (Section 303) case against Exide; 4-relative to past releases, App II district staff believed they had old filters on file that they believed might illustrate the magnitude of past releases of baghouse dust; and finally, 5-Air staff introduced the idea of a "fingerprint" project and said it would be superior to the kind of thing I had talked to Danny France about. It was agreed that Floyd Ledbetter (EPA) would investigate further on this.

Further discussion of the air study is shown in my 2/19/97 phone memo (**Atch 8**) with Ledbetter, with him relating what NEIC/Denver had said. Notable points include: 1- he told me this would be done at no cost to region; 2- that only 35 or so samples would be needed to get a statistically high confidence level; and 3- we looked first at the possibility of using samples already on hand rather than collecting new ones. Since this early discussion of the air study project, I had never until very recently considered whether the costs for it would necessarily be CERCLA cost-recoverable. This is for others to decide.

I do recall that, in general, my understanding of the project was as follows: 1-it would not be very expensive; 2-would settle the "source" issue and have the necessary info in our files to support cost recovery for the 1994 removal; and 3-could be used to support South Carolina's enforcement effort since problems and delays were anticipated; and 4- I believed that the Air Enforcement staff had other use of, or expected value from, the study beyond just supporting Superfund

enforcement. (It also fit well within the joint approach to CERCLA site assessment, and indeed remedial work in general, that the EPA-SCDHEC Self-Directed Work Team was initiated to accomplish, and has since expanded upon.) I had no idea we would still not have a complete report by May 1999.

Atch 9, which I had never seen until late April 1999, shows the official origin of (and request for) the air study. Had I seen this at the time, I might have noticed early on and done something about the apparent lack of an Air-enforcement-based need for the study (as presented in the memo) from the air standpoint.

Most of the file material since that time focuses on things needed for the study, the June 1997 sampling at WTP by SESD/Athens, and tracking of the State-Lead work on the site. Most of the 1998 correspondence reflects Exide's insistence on a higher soil cleanup goal (2000 ppm Pb or more) than the State intends to allow. Review by EPA Region 4's Office of Technical Services, Waste Management Division, has verified the absence of any acceptable rationale from Exide thatwould warrant raising the residential surface soils removal level for lead, of 400 ppm.

Attachments

1. 12/96 EPA Form 9100 (my copy)
2. 3/11/96 Meeting notes from EPA-DHEC SDWT meeting
3. Phone memo, R. Howard with Danny France, EPA-SESD, and Mike Klender, SCDHEC, 3/28/96
4. 7/16/93 EPA Form 9100 (General Battery Corp. Site)
5. SCDHEC, "Site Screening Investigation," dated 11/89; and Letter, 11/29/90, from Engineering Science, re: the above report
6. 10/7&8/96 Meeting notes from EPA-DHEC SDWT meeting
7. 2/13/97 Meeting notes, R. Howard with EPA Air staff, Mike Klender (by phone), and SC DHEC App II air staff (by phone).
8.
9. Memorandum, 3/19/97, "Request for Assistance..." Beverly Spagg, EPA, to NEIC/Denver

I swear and affirm that the foregoing truthfully and accurately represents the facts as they are known to me.

Ralph O. Howard, Jr.

Ralph O. Howard, Jr., P.G.
Remedial Project Manager
5/12/99

ATTACHMENT 1

COPY

"OFFICIAL" signed original is in Site Files.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: Westgate Mobile Home **EPA ID#:** SC0 000 487 687

Alias Site Names: _____

City: Greer **County or Parish:** Greenville **State:** SC

Refer to Report Dated: December 30, 1996 **Report type:** PA/SI

Report developed by: SCDHEC

DECISION:

| | **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

| | 1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

|X| **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: | | Higher |X| Lower

2b. Activity Type: | | PA |X| ESI | | SI | | HRS evaluation

| | Other: _____

DISCUSSION/RATIONALE:

The trailer park is adjacent to facility which manufactured lead-bearing batteries between the late 60s and the present. The main concern is the high levels of lead present in surface soils in the trailer park. Since the battery plant owners have agreed to investigate the park and adjacent plant under State oversight, and remediate the affected areas if necessary, the site will be considered "Low Priority" for an ESI, but will be reevaluated after State actions have progressed further.

Report Reviewed and Approved by: Ralph O. Howard, Jr Signature: _____ Date: _____

Site Decision Made by: S. Carolina Preremedial Team Signature: _____ Date: _____

EPA Form # 9100-3

ATTACHMENT 2

coincidence and at least deserves a look...Yvonne and Susan Kuhne will talk to WPC about what other actions could possibly be taken, and investigate whether an EM survey would be worthwhile. The strategy will be further developed and issues brought back to the team.

<Lunch break 11:45-12:45>

Blackberry Valley Landfill (Judy Canova, Yvonne J.)
About 5 miles NW of Greenville, landfill was operated from 1976 to 1987 by both Greenville County and City of Greenville. It has both municipal and industrial wastes, including 3300 drums (some are plating wastes) which were permitted. Metals (Cd, Cr, Zn) have shown up in LF groundwater and nearby surface water. Methane escape has also been a problem; one home w/ crawl space had to have forced-ventilation system installed. There is a Consent Order in place between Greenville County and Bur. Solid/Haz Waste Mgmt (BSHWM), monitoring and possibly other actions are on the table. ACTION: Decision made to keep site as a Low Priority for ESI as long as State is getting good cooperation.

Traveler's Rest Granite Quarry (Greg George, Yvonne)
Old quarry with standing water in bottom. There were, in the past, 300 drums present which have since been removed. Documented release to surface water. No groundwater hits that can be attributed without doubt to site, but the well placement is questionable. ACTION: Changed priority to "Low" for SI, but it will get one.

Kellet Property (Mike Klender, Craig)
Criminal investigation in progress by State CID. "Backyard" drum dump site, drums in trenches. Drums still there, aerial photos have allowed ID of extensive trenches. In groundwater, TCE, PCE (trace vinyl chloride also, as degrad. product). (Product buried here was "tris," a flame-retardant material used in the 70s in sleepwear.) Soil contaminants incl. acetone, methyl ethyl ketone, toluene, chlorobenzene (soil from trenches). One PRP, Hinkel, is willing to sign order with DHEC BSHWM to do work. A draft order is expected to be sent to them in 2-3 weeks; likelihood that they'll do the needed work can then be judged, but it looks likely. ACTION: Team will follow progress, keep designation "High" for SI, keeps "hammer" out there if needed later.

Westgate Mobile Homes (Mike Klender, Ralph Howard)
Trailer park right next to Exide Battery; lead in soil. Problem came to light in '91-92; EPA EERB investigated in '95 and did a removal action in 8/95. Blood-lead monitoring indicates lead levels in children's blood is not decreasing; Div HH Evaluation (Dr. Marino) has said that he will therefore contact EERB about possibly another action to address lead in soil, still apaparently the source of exposure. Some time after the problem was identified, Exide reduced their emissions, after which State BAQC discontinued the air monitoring they had been doing. EPA soil data did not conclusively back up DHEC's as far as proving Exide to be the source. Action: EPA (Ralph, Don/Roger) will explore possibility of a soil sampling event, using XRF or the FASP lab, possibly in conjunction with EERB if they (EERB) decide to remobilize to site, independently if not. Soil

ATTACHMENT 3

PHONE CONVERSATION RECORD	Date	Time
	3-28-96	10:40 am

WHO Mike Klender, SCDHEC; Danny France, ESD Air Compl. Unit, Athens GA

SUBJECT:

Discussion points

- o Can we get a deposition rate from their monitoring data? Danny refers him to someone in BAQC, should be a model can do it...would predict distribution/spread/pattern
- o BAQC's conclusion didn't go against Exide's position, which is that they've met EPA's standards; all else is unproven
- o BAQC would not "finger" Exide as culprit, not comfortable doing that...As far as proving soil data is not definitive enough.
  - DHEC's was done in summer 1994...not gridded in a manner which would point to origin...
- o Need enough soil data to show: highways not enough; areas of Pb correspond to modelled pattern; therefore
- o Plan:
  1. Need more soil data, done on a tighter
  2. Try to match predicted (modeled) deposition pattern with actual, from soil data

Mike - will investigate sample collection; get back to Ralph week 8-12 April. Ralph will look into lab space & analysis/possibilities for FASP lab usage...

Call completed at 11:25.

ACTION ITEM(S) FOR DAY-TIMER

Ralph O. Howard.

ATTACHMENT 4

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

Site Name: GENERAL BATTERY CORP **EPA ID#:** SCD 042 633 859

Alias Site Names: EXIDE BATTERY

City: GREER **County or Parish:** GREENVILLE COUNTY **State:** SC

Refer to Report Dated: 7/08/93 **Report type:** SIP

Report developed by: HARVEY DANIEL, SCDHEC

DECISION:

|X| **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

|X| 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to: | | RCRA | | NRC

|X| **2. Further Assessment Needed Under CERCLA:** 2a. (optional) Priority: |X| Higher | | Lower

2b. Activity Type: | | PA | | SI | | ESI | | HRS evaluation

|X| Other: REMOVAL ASSESSMENT NEEDED

DISCUSSION/RATIONALE: Site does not qualify for NPL due to low number of targets. Battery manufacturer. High levels of lead in groundwater and soils. No groundwater users. Soils on-site are highly contaminated with Pb. Some soil removal has been done, but no post removal evaluation. Main concern: trailer park and subdivision adjacent to the site. High probability of residential soil contamination with lead. Residential soil needs sampling. On-site soils adjacent to trailer park are contaminated with Pb up to 1,700 ppm. Referred site to the Removal Assessment Team (RAT) and have recommended residential soil sampling.

Site does not qualify for NPL, therefore, no further remedial action is planned, site evaluation accomplished.

Report Reviewed and Approved by: Cathy Amoroso Signature: _____ Date: 7/16/93

Site Decision Made by: Cathy Amoroso Signature: _____ Date: 7/16/93

EPA Form # 9100-3

ATTACHMENT 5

Page 13

Paragraph 5 refers to livestock watering within 15 miles downstream of the site. This reference fails to demonstrate surface water contamination at this unspecified point; the alleged exposure route is therefore incomplete.

Page 14

The air pathway discussion is full of statements unsupported by facts. While it is true that many "targets" could be affected if contaminants are released to the air, no discussion is included as to the likelihood of such a release. Lead, being non-volatile, tends to remain in the soil. It is a gross overstatement to identify as possible receptors people who live 4 miles from the site, especially without regard to prevailing winds.

The population referred to is based on 3.8 persons per house while the more accurate number for Greenville County is 2.76, based on the U.S. Census data mentioned above. The total population within 4 miles is, therefore, 23,851, given that the other assumptions are accurate.

Paragraph 5 states that the nearest residence to the site is 25 ft. away. The actual distance to a point of known contamination is considerably more.

Page 15

Paragraph 3 confuses permitted discharges of lead into the atmosphere from production areas with releases of lead (presumably via wind-borne dust) from waste disposal areas. Permitted discharges are not relevant to this discussion since EPA does not normally evaluate sites in the pre-remedial program that have not exceeded their permit limits. The last sentence in paragraph 3 is entirely speculative. This is an example of the use of unsubstantiated, accusatory language which pervades this report.

Paragraph 5 references a lead level of 8860 ppm in site soil and concludes that worker contact with this waste is possible. First, this data does not reflect the current situation. Lead concentrations greater than 2,000 ppm were removed in 1989. Second, the potential for the 176 people working at the plant to come into direct contact with contaminated soil is minimal. This area is well away from the plant and not within normal traffic patterns used by workers. Also, as mentioned in paragraph 4, workers are required to wear shoes. Hand to mouth transfer of lead-contaminated soil, which may occur in children under the age of six in a residential area, is uncommon in such industrial settings.

Paragraph 6 refers to a concentration of lead of 290 ppm as presenting the potential for direct contact exposure off-site. The Centers for Disease Control's (CDC) most recent guidelines in this area place levels of 500-1000 ppm lead in soil as representative of potential harm. Urban areas commonly have lead levels due to auto exhaust of 200-400 ppm (Sean Ching Tsai, ATSDR, 11-13-90).

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Paragraphs 1 and 3 again reference chromium contamination, although there is no evidence supporting the allegation that it is linked to Exide.

The conclusions drawn in paragraph 3 are not supported by the facts. The contaminant plume is well defined and under control. The area under which the plume flows is served by a public water supply system. The population cited is overestimated. There is no evidence of contamination of a drinking water source.

The potential for direct contact exposure for workers is minimal. The potential exposure via direct contact in the King Acres subdivision is based on a single sample which is below CDC guidelines (greater than 500 to 1000 ppm lead). To extrapolate this result to the entire subdivision is unjustified.

HRS Evaluation

Several points referenced in the SSI report relevant to Hazard Ranking System (HRS) factors should be addressed. The HRS is undergoing revisions and the revised version should be finalized within the next few months. The "draft final" revised version of the HRS differs considerably from the revised version of 1988, the version with which the state is most likely familiar.

A preliminary score was calculated by ES using the May 1, 1990 version of the draft final rule for the GBC-Exide facility. Since the information included in the SSI report prepared by the state was not as detailed as required by the HRS, basic assumptions were made. These assumptions, along with any minor changes which may occur before promulgation of the HRS, make the score a preliminary one. However, even when a worst-case scenario is assumed in the categories of likelihood of release and waste quantity, the score is still only 21.89. Currently, a score of 28.50 is necessary for sites to be considered for the National Priorities List. Sites which score 25.00 or more receive additional scrutiny before being considered for the NPL.

Listed below are some of the reasons why the HRS score is low:

Surface water use is virtually non-existent downstream from the facility. Because there are so few targets (people who drink the surface water, people who eat the fish caught in the surface water, or endangered species which live in or on the banks of the surface water), the surface water pathway will receive a minimal score on the revised HRS.

The likelihood of release to the air pathway is slim. Even under a worst-case scenario, the potential to release lead to the atmosphere is low. This is true because the Thornthwaite P-E index (a measure of particulate migration potential) is low for this region.

Persons per household will no longer be assigned a value of 3.8. With the revised HRS, values will be assigned through census data collected for each county. The value for Greenville county is 2.76 persons per household based on the U.S. Census data mentioned above. The total population within 4 miles is reduced from the estimated value of 32,841 persons presented in the SSI report to 23,851. Under the revised HRS, distance weighting factors decrease dramatically in the air pathway when traveling away from the site, thereby reducing the number of people considered as targets.

Land use does not play as large a part in the total air pathway equation as it did in the 1988 draft revised version of the HRS. Also, schools are of primary concern when located either onsite or within 1 mile of the site and are addressed under the soil exposure pathway. The seven schools mentioned in the SSI report would not fall into this category.

There is no documented observed release to the air pathway--air samples must be taken for that to be considered. In fact, since the lead level designated in the air permit has not been exceeded, there is no substantiation for the likelihood of release to the air pathway. This means that the air pathway would have to be scored using likelihood of release, which, as mentioned above, will produce a much lower score.

The contaminated area at the south end of the property, near the closed-out lagoon, is not along the route that the majority of the 176 workers onsite would use to travel to and from the plant. Although this area of contamination is less than 200 feet from the plant area (one of the requirements for workers to be counted as targets under the soil exposure pathway), it is unlikely that the workers would be crossing through this area on their way to work.

Conclusions

The report presents a simplistic, out-of-date view of the situation at the Greer plant. Its principal finding, that surface soils on the plant site contain quantities of lead, is a well known fact. The data gathered is but a footnote in the 5+ years of quarterly groundwater and surface water sampling and extensive soil sampling conducted to date.

Still, the State recommends an additional pre-remedial investigation depending on the continued progress of remediation efforts. ES does not believe an additional investigation is justified, given the number of investigations which have been conducted since the late 1970's. A more desirable course for all parties concerned is a continuation of the remediation efforts begun in the early 1980's to clean up site soils, limit runoff of contaminants to receiving streams and continue the largely successful groundwater recovery program. Additional studies with the attendant slanted reports are not needed and in fact are detrimental to the desired outcome.

This concludes ES' comments on the SSI Report on the Exide-Greer, South Carolina facility. It has been our pleasure to conduct this review for you. Please call if you have any questions.

Sincerely,

ENGINEERING-SCIENCE, INC.

Michael Profit
Project Manager

Enclosures

MP:nnw

C. Surface Water Impact

Lead and acidic contamination in the streams near GBC has been attributed to GBC. In May, 1978 the Appalachia II District, SCDHEC found a pH level of 3.9 and lead levels of 0.41 ppm in Princess Creek in the King Acres Subdivision (Ref. 56). The District Office also found a pH level of 3.4 and a lead level of 0.21 ppm in a small unnamed tributary that flows into Princess Creek in the subdivision (Ref. 56). In February, 1979 a study by the Hydrology Division, Bureau of Special Environmental Programs, SCDHEC, found a pH of 3.8 in White Plains Branch approximately 0.5 mile south of the GBC plant (Ref. 23). The study concluded that the contaminated groundwater at GBC was percolating through the subsoil to White Plains Branch and contaminating the creek's waters (Ref. 23).

VI. AIR PATHWAY

If the contaminants at GBC are released to the air many targets could be affected. The impact on those targets will depend on the proximity of the target to the site.

Population. GBC is located in a heavily populated area. The 4 mile radius of the site includes the entire incorporated area of Greer, S.C. and Taylors, a fast growing suburb of Greenville, S.C. The population distribution by 1 mile radii around the site is estimated to be:

0-1 mile	2842
1-2 mile	7691
2-3 mile	13,088
3-4 mile	9220
Total Population	32,841

These estimates are based on assuming 3.8 persons per house counted on the United States Geological Survey topographical map for the area, and on an area based percentage of the population for Greer and Greenville, South Carolina (Ref. 38, 45).

Nearest Residence. The nearest residence is a mobile home in the mobile home park immediately outside the east fence of the site. The homes are less than 25 feet away from the fence (Ref. 2).

Land Use. In addition to residential, the land around GBC also has commercial and industrial use. A K-Mart Shopping Center is 0.3 miles north of the site. Homelite, a chain saw manufacturing plant is located 0.25 mile southeast of the site.

There are seven schools within the 4 mile radius of the site. The closest school is the Tryon Street School located 1.1 mile northeast of the site.

Prime agricultural land is located 0.5 mile southwest of the site (Ref. 39).

Sensitive Environments. No habitat for federal or state endangered species have been established within the 4 mile radius of the site (Ref. 57). There are no fresh water wetlands within a 4 mile radius of the site.

Observed Release. Under federal and state air pollution control laws, General Battery Corporation has been permitted to discharge lead into the atmosphere (Ref. 3, 34). GBC has not exceeded the permitted discharge limits since the issuance of the permit (Ref. 3, 34). However it is not known whether or not there were significant discharges of lead into the atmosphere prior to the issuance of the permit.

VII. ON-SITE EXPOSURE

A. Direct Contact Mode

Acidic and lead waste is generated at GBC as a result of automobile battery manufacturing. There are 176 people working at the plant (Ref. 58). Protective measures taken to minimize worker exposure to these wastes inlude, among other things, protective clothing and shoes (Ref. 59). There have been no documented instances of health or safety incidents associated with the lagoon, the soil behind the plant, or the two runoff ditches (Ref. 56).

Soil contamination has been documented for lead as high as 8,860 ppm on the site (Ref. 37). Therefore the potential exists for worker contact with the waste as they traverse across the property. There is little or no potential for direct contact for the 2842 people living within 1 mile of the site since the property is enclosed by a fence and is guarded when the plant is not running (Ref. 60).

There is potential for direct contact off-site. As a result of complaints about surface water runoff into the King Acres Subdivision, a concentration of 290 ppm for lead was found in the soil in the backyard of 107 Bent Creek Drive, 100 feet west of the plant fence (Ref. 31).

B. Fire and Explosion Mode

The GBC site is not a fire or explosion threat since there are no volitile or explosive substances deposited on the site (Ref 41). Also, in the case of the closed out lagoon, the waste is contained 2.5 feet below the soil surface (Ref. 5).

VIII. CONCLUSIONS AND RECOMMENDATIONS

General Battery Corporation (GBC) began manufacturing automobile batteries in 1960. Battery manufacturing plants produce lead and acidic waste. In the early 1960s an unlined lagoon was constructed at the plant

for the treatment of wastewater. As a result of the lagoon and problems with a waste pretreatment system, the groundwater and surface waters at GBC became contaminated with lead and acid. A study by the South Carolina Department of Health and Environmental Control (SCDHEC) indicated that the groundwater at GBC was also contaminated with chromium even though the use of chromium in the production process at GBC is not substantiated. The lagoon has since been closed and a groundwater recovery system has been put in place to remediate the groundwater contamination.

Due to discharges at GBC prior to regulation of those discharges the soil at GBC became contaminated with lead and acid. Because of surface water runoff, soil in the King Acres Subdivision next to GBC also became contaminated with lead. GBC has submitted a Site Assessment Plan to SCDHEC for the remediation of on-site and off-site soil contamination. This project is scheduled to be completed by December, 1989.

Lead and chromium are the most toxic and persistent substances found on the GBC site. If the groundwater is still contaminated, there are approximately 1854 people living within a three mile radius and approximately 3238 people living within a four mile radius of the site that could be affected by the groundwater. Also there is the potential for on-site exposure for the 176 people working at GBC via direct contact with the contaminated soil on the site. Also there is potential for exposure via direct contact with the contaminated soil for the residents of the King Acres Subdivision.

Based on the foregoing it is recommended that GBC be given a Medium priority for a Listing Site Investigation (LSI). The decision for a LSI should be based on the progress of the remediation programs in progress at GBC, particularly the soil remediation program. If a LSI is necessary, emphasis should be placed on ascertaining the extent of soil and groundwater contamination at the site. Also emphasis should be placed on ascertaining the extent of soil contamination in the subdivision beside GBC, and whether or not this contamination extends beyond the subdivision.

ATTACHMENT 6

Minutes
October 7 & 8, 1996
EPA-SCDHEC Self-Directed Team Meeting in Charleston, SC
SCDHEC/BSHWM Site Assessment Section
Discussion of Waccamaw and Trident District Sites

Day 1 - October 7, 1996

Attendees: EPA Staff - Yvonne Jones, Craig Zeller, Roger Carlton & Ralph Howard

SCDHEC Staff - Jonathan McInnis, Susan Kuhne, Marion Feagin, Donna Sightler, Pete Koufopoulos, Mike Klender, Bill Seaborn and Rick Richter

Day 2 - October 8, 1996

Attendees: EPA Staff - Yvonne Jones, Craig Zeller, Roger Carlton & Ralph Howard

SCDHEC Staff - Jonathan McInnis, Susan Kuhne, Greg George, Marion Feagin, Donna Sightler, Pete Koufopoulos, Boyd Holt, Steve Knight and Rick Richter

Discussion of Sites:

A. **Manetta Mills** - State Project Manager (SPM) - Susan Kuhne and the EPA Project Manager (EPM) - Yvonne Jones

Decision by the Team - PRP is currently working toward completing remedial activities at the site. This site has been referred to the Bureau of Solid Waste. NFRAP is pending referral to the Bureau of Solid Waste.

B. **Westgate Mobile Homes** - SPM - Mike Klender, EPM - Ralph Howard

Decision by the Team - Currently, there are kids with High Lead levels greater than 10ug/dL. EPA did a removal, removing contaminated soil with lead concentrations greater than 500ppm. Exide batter has shut down the main facility. SCDHEC has specified taking additional soil samples (PRPs are responsible for this task). In addition, Mike would like some assistance from EPA-SESD. A PA report was assigned in June 1996. A PA/SI report will be done during FY97.

EPA/SCDHEC Self-Directed Work Team
OCT. 7-8, 1996

DISTRICT
Bill Seaborn
Rick Richter

- Trident Sites

Manetta Mills SI (July) - various small dump areas. Solid Waste now has the lead, in conj. with Criminal Enf., they will get Order. Low ppm PCBs. NFRAP candidate later if no problems in getting order + work in place.

1:30 Westgate Mobile Homes (App. II, Greer) lead in kids blood, trailer park next to Exide Battery. Consent Order in May with Exide. Still need more samples - Mike K. may need assistance. Disc. 6-96; Team decides do PA/SI.

- Trident

A-1 Fence (PA Nov. 95) Pete, Yvonne Dorch. county - small facility, 2 bldgs, hole & burial of fence debris, ~~[illegible]~~ paint cans, etc. 20 cu yds of wastes removed 1991. NFRAP.

1:40 Amer. Develop't. Corp. (PA this mo.) Pete, CZ Ops 71-95 bankrupt. Mfg. military eqpt., bridging eqpt, air ship'g. containers. Were a RCRA generator. HIGH-PRI SI; Craig will get removal assistance. ~~Hanahan beside Chas. CP~~ water trtmt. plant. Coord. Removal ~~with SI sampling~~ [illegible]

Has RCRA Number - delete new number

Brabham Dump (Pete, CZ) SI scheduled this year. Scarce history - (Owner dead, Mr. Kennerly) wife Alzheimers. All types of trash [illegible]. 5 acres, fenced (High-PRI for SI) Since 85 auto salvage + parts. '75-'79 opendumping.

Crab Bank Drum (Pete, CZ) May '96 CG did a removal of one drum w/xylene, 1/2 full. Removal, disposal. Team should NFRAP.

Sweat Property SI 3/96 completed (Pete, YI). Richard Sweat - land-clearing business - filled in an area w/tree stumps. Right next to River; debris landfill right next to River. State personnel had seen drum lids, etc. NFRAP

~~Texaco Facility (Pete, RH)~~
Same as Texaco, Inc. RH → number to be taken off CERCLIS

ATTACHMENT 7

EXIDE BATTERY/WESTGATE

Mtng Conf. Call 2-13-97

Ralph O. Howard, J
WASTE/NSMB x2582

Mike Klender –
Dr. Robt. Marino – HH Eval
864-
Doug Johns – Dist App. III
Phil Sharping – Air QC in District
Floyd Ledbetter
Astrid Aponte
Caroline Robinson
Dick DuBose
Beverly Spagg
Leif Palmer – EAD
Ralph O. Howard, Jr.

- Questions re: current status + process
- RH → Overview of history
  Removal → summer '94
- Recent 14/44 exceed 500 ppm
- Exide: NO surf wtr ✓
  NO Air exceedances ✓
  NO discussion of Westgate at all.
- Discussion of "fingerprinting"
- What is objective? Marino ⇒ stop exposure
- Not → paint, dust etc. in homes (Marino)
- Much discussion
- To do:

A) Fingerprint EFFORT: Floyd Ledbetter – info; Phil Sharping also

B) Air will continue their 303 effort – or, determining if they can or cannot do one...

EXIDE BATTERY

Feb. 13, 1997 Meeting

Floyd LEDBETTER -	AIR ENF.	2-9218
Astrid E. Aponte	"	29199
Caroline Robinson	"	29203
Dick DuBose	"	2-9168
BEVERLY SPAGG	"	29170
Leif Palmer	EAD	2-5542
Ralph O. Howard, Jr.	NSMB	28829

ATTACHMENT 8

Ralph O. Howard, Jr.
Waste/NSMB

PHONE CONVERSATION RECORD	Date	Time
	2/19/97	10:30 am

WHO Floyd Ledbetter, Air Compliance EPA R.4

LEAD "FINGERPRINTING" AT EXIDE BATTERY/WESTGATE TRAILER PARK

He spoke w/ the National Enforcement Investig. Ctr. in Denver to Joe Lowry, and his Br. Chief Eric Nottingham (Lab Svcs Br). They want to participate with us in "fingerprint" project for lead at Exide/Westgate; no cost to Region.

We need to clear it with Gene Lubieniecki, Chief, Operations for the Civil Enforcement Support Group (in NEIC).

They have recent experience in this, worked with Paul Peronard (OSC) regarding TLC for lead from a smelter...this would be similar, should'nt be that much diference. This work would definitively tie Exide's operation to the Pb-contaminated surface soils in Westgate, and would refute the auto exhaust/busy highway nonsense. (Their experience agrees that generally at 30m off highway centerline there is no significant lead signature). The

Number of samples, and degree of correlation, controls what degree of confidence you achieve. If the correlation is very strong, a conf. limit of 80-90% may require only 35 samples or so. How many samples can we gat? Any state splits? Any EPA samples still being held onto?

ACTION ITEM(S) FOR DAY-TIMER	Ralph O. Howard, Jr.

R. HOWARD / PHONECON.RCD / FORM

ATTACHMENT 9

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

MAR 19 1997

4APT-AEEB

MEMORANDUM

SUBJECT: Request for Assistance In Conducting Lab Analysis of Soil and High Vol Samples Collected in Greer, South Carolina, in Support of SCDHEC Hazardous Waste Division

FROM: Beverly A. Spagg, Chief
Air & EPCRA Enforcement Branch
Air Pesticides & Toxics Management Division

TO: Eugene Lubieniecki, Chief
Civil Enforcement Support Branch
NIEC Operations Division

Region 4 is requesting assistance in the form of laboratory analysis for specific lead compounds in both soil samples and High Vol filters in support of an ongoing enforcement action in South Carolina by the South Carolina Division of Hazardous Waste. The company (Exide) has completed a Remedial Investigation, dated January 1997, in which they drew several conclusions; mainly that Exide is not responsible for lead deposition in Westgate. Although they are the only source of lead in the area, they have highly elevated levels of lead on their property. Current models have shown that deposition from their stacks has occurred; however, they claim they are not responsible. The Regional Waste Division staff, in working with South Carolina, asked us if we knew of a way to show responsibility of lead deposition or could assist them in doing so. Attached is a proposal by members of my staff to specifically identify the source of lead emissions impacting Westgate Trailer Park.

We are under no specific deadline; however, we do not want to see a responsible party remove themselves from responsibility. We request that you evaluate our proposal and let us know your desire and ability to respond. We are also looking into Region 4's capability to perform these analysis in our own laboratory, and should both of you desire, to participate we will work out any details necessary to split the work. Please contact either myself or Dick DuBose, Air Enforcement Section Chief at (404) 562-9168, Floyd Ledbetter at (404) 562-9218 or Jean Campbell at (404) 562-9193 of my staff if you have any questions or need assistance.

Attachments

Proposal for Identifying the Specific Source of Pb (Lead) Emissions in Westgate Trailer Park in Greer, South Carolina

U.S. Environmental Protection Agency
Region 4
Atlanta, Georgia

Floyd Ledbetter, P.E., & Jean Campbell
Air & EPCRA Enforcement Branch
Air Pesticides & Toxics Management Division

March 13, 1997

Site Location:

Westgate Trailer Park, Greer, South Carolina, is located at the intersection of US Hwy 29 and Old Chick Springs Road on the north side of the P & N RR. Westgate Trailer Park, developed in the 1960's, is on approximately a 5-acre tract adjacent to Exide Corp. Located to the SW.

Background:

In June of 1994, Roy F. Weston, Inc., under contract to EPA, collected soil samples in the trailer park and a clean up was undertaken in part of the trailer park. Currently SCDHEC has a Consent Order 96-12-HW (Hazardous Waste) which calls for Exide to do additional remediation if they feel it necessary and show Exide responsible. EPA Region 4 Waste Division called the AP&TM Division and asked if we could render assistance.

Objective:

Identify the source of Lead (Pb) deposited within the trailer park so that the responsible party can be identified and so remediation can be undertaken as needed by said responsible party.

Proposed Methodology:

In addition to standard methods, i.e., modeling and lack of other sources of Pb emissions, we believe it possible to identify the source of Pb emissions through speciation of the Pb bearing compounds in the soil samples both from the Exide property and in the trailer park as well as from the High Vol samples collected in 1994-95 by the State.

Required Work:

Collect approximately (30) thirty, 100 gram (4 oz) samples at both locations in a manner that is representative of Lead on the site based of previous soil samples as taken for the Exide Corp. In 1996, as shown in the Remedial Investigation Report Westgate Trailer Park dated January 1997. Concentrations are not critical, as long as they contain enough Lead for analysis. In addition collect approximately five (5), 100 gram (4 oz.) soil samples from an area adjacent to US 29 but away from the influence of Exide's emissions. These are to show automotive impact or the lack thereof.

Responsible Party for Work:

a) Soil samples will be collected either by South Carolina personnel or EPA Region 4 personnel and shipped to the EPA Lab for analysis.

b) The 10 highest Pb bearing High Vol samples will be shipped by South Carolina to the EPA Lab for analysis.

Assistance Needs:

Soil and High Vol analysis in the form of determination of specific Pb compounds in each sample, i.e. PbO, Pb_3O_4, PbS, $PbSO_4$, etc., to enable identification of the source and/or the elimination of automotive sources as contributors.

a) Time table of analysis and reports,
b) Cost if any and to whom
c) Any special requirements or needs.